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# **Flight Operations Segment Overview**

## **Cal Moore**

**System Design Review - 28 June 1994**

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# FOS Outline

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**FOS Context**

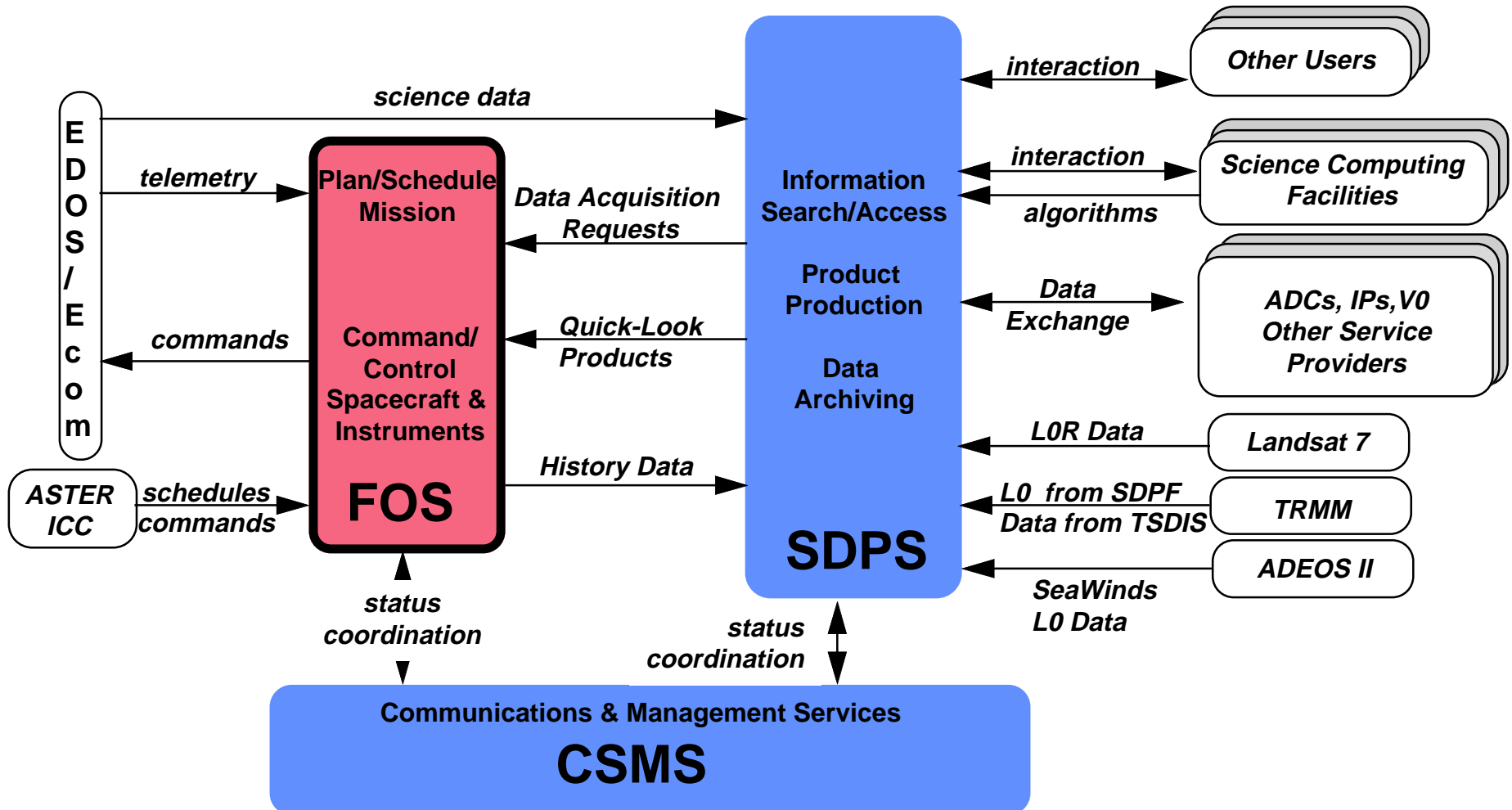
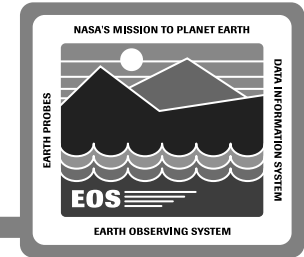
**Mission and Key Requirements**

**System Design Activities**

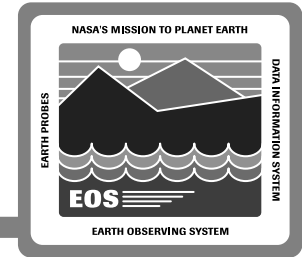
**High-level Architecture**

**Splinter Session Roadmap**

# ECS Context



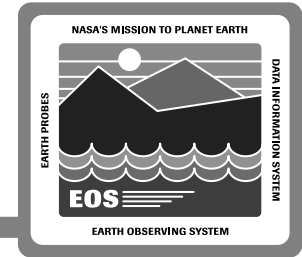
# FOS Mission & Key Requirements



**FOS provides the infrastructure for mission critical operations, ensuring the health and safety of space assets; including the planning, scheduling, commanding and monitoring of the EOS spacecraft and instruments. To accomplish its mission, FOS:**

- provides for planning and scheduling of the EOS spacecraft and instruments**
- provides for the generation and validation of uplinkable loads**
- provides for transmission and verification of commands to the EOS spacecraft and instruments**
- provides for the capability to receive and process both real-time and playback housekeeping and engineering data**

# FOS Mission & Key Requirements (continued)

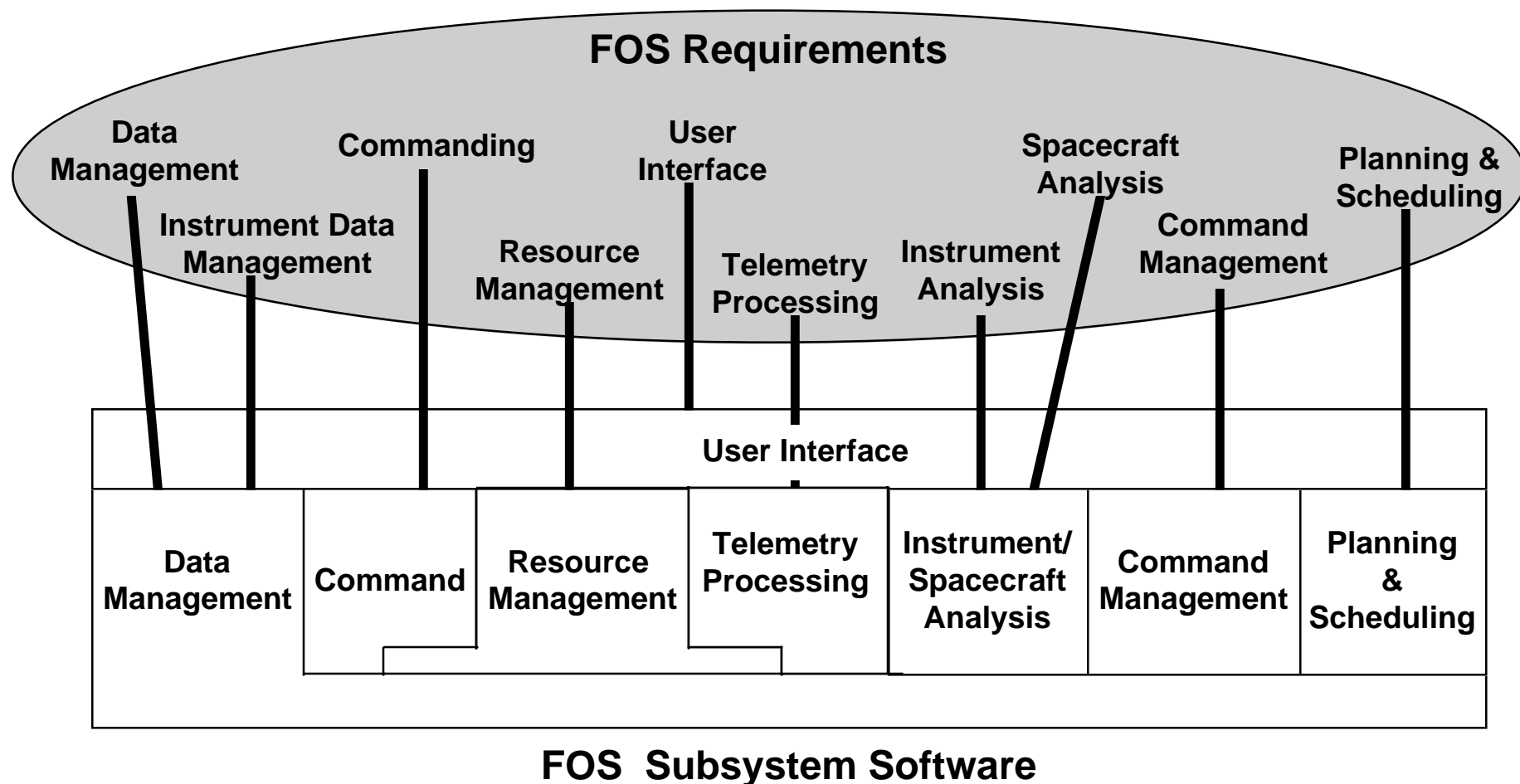
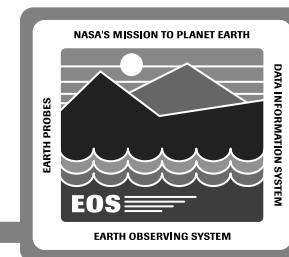


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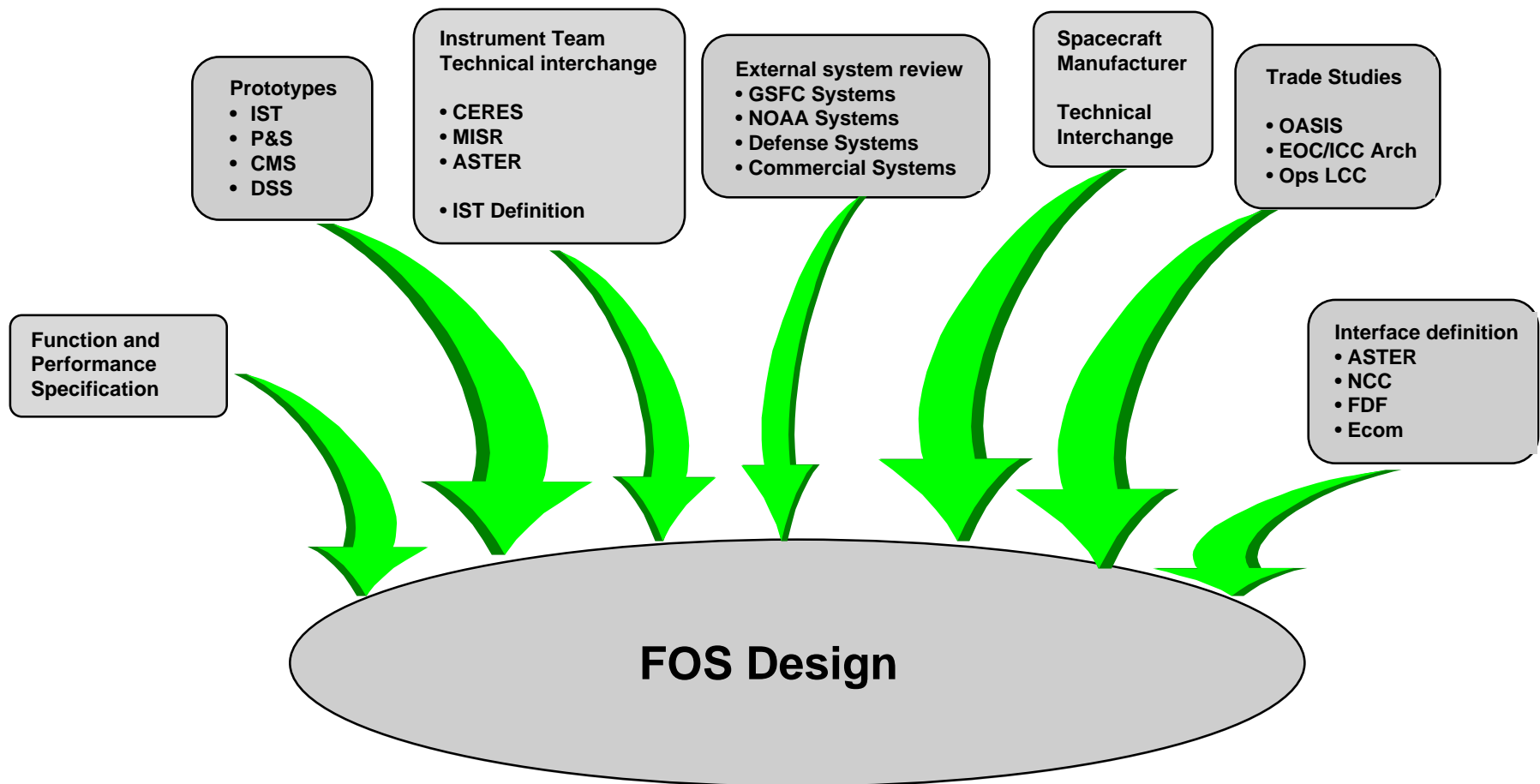
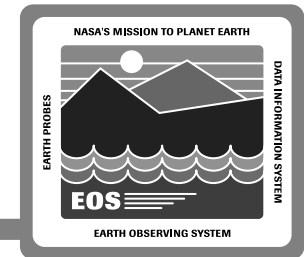
- provides the analysis tools to maintain the health and safety of the EOS spacecraft and instruments**
- provides the capability to ingest, archive, and distribute critical engineering data**
- manage the resources to ensure no single point of failure or data loss**
- provides a flexible, robust user environment for display and control**

**These eight core requirements map cleanly into eight FOS subsystems.**

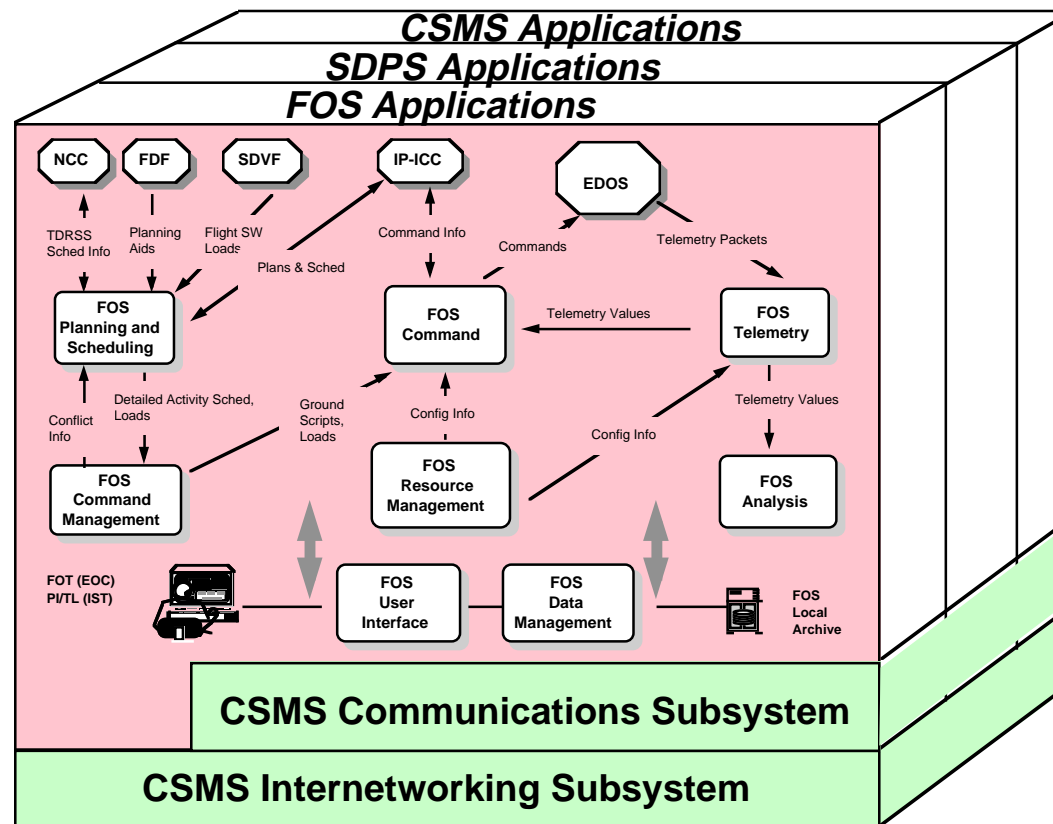
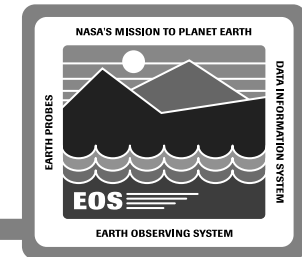
# FOS Requirements to Design Flowdown



# System Design Activities

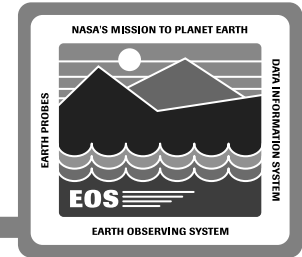


# FOS Position in ECS Reference Model





# FOS Elements

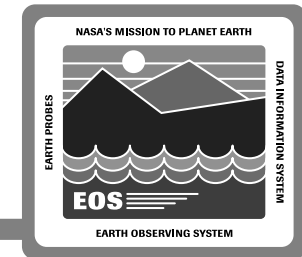


## **EOS Operations Center (EOC) -**

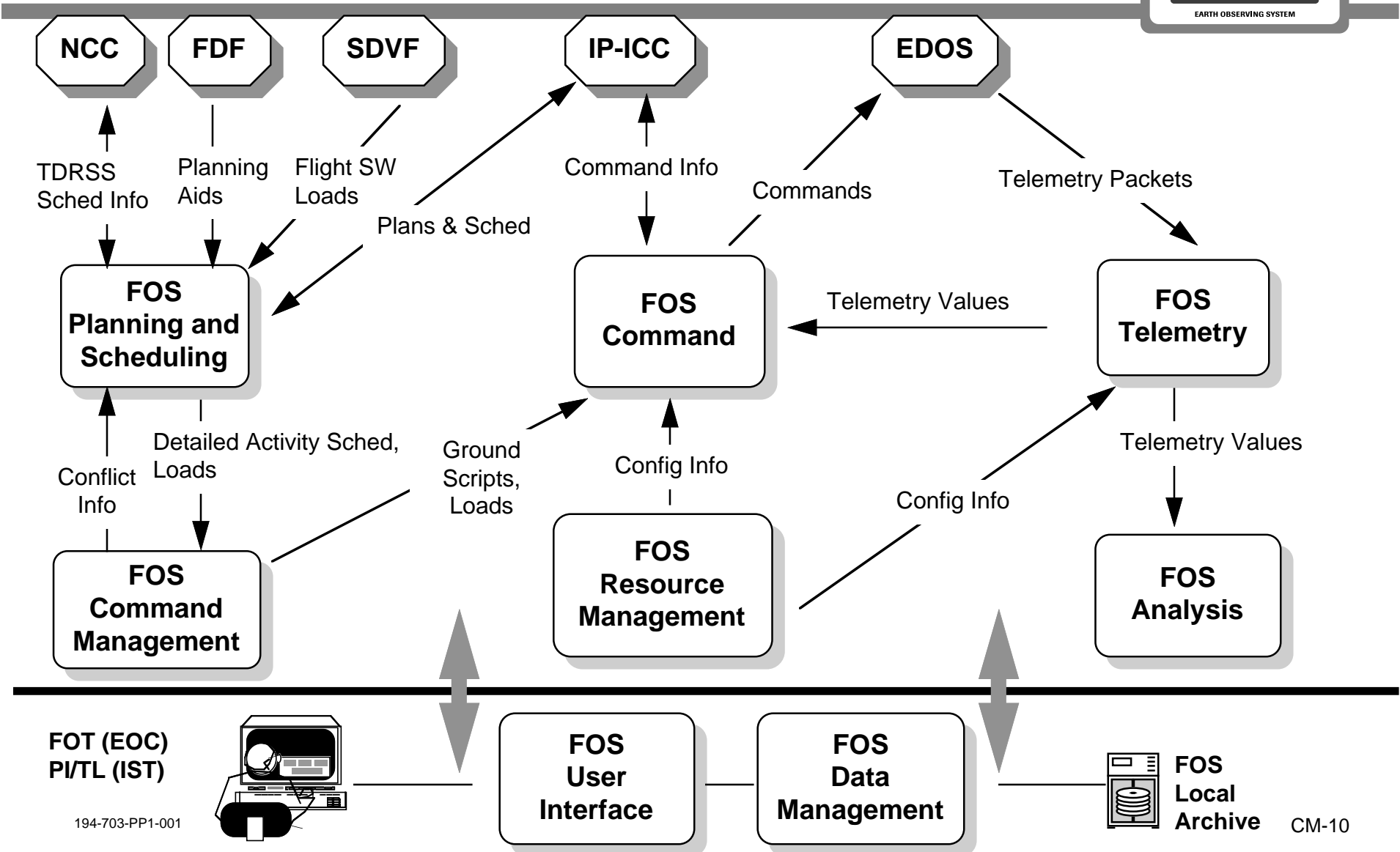
- **GSFC element responsible for overall mission operations of spacecraft and instrument**

## **Instrument Support Terminal (IST) Toolkit -**

- **Investigator-site ECS software connection, “window into the control center”**
- **Consists of user provided workstation and toolkit software allowing a remote instrument scientist to**
  - **participate in planning and scheduling**
  - **monitor engineering telemetry**
  - **develop command requests**
  - **assist in anomaly resolution**



# FOS High-Level Architecture



FOT (EOC)  
PI/TL (IST)

194-703-PP1-001



FOS  
User  
Interface

FOS  
Data  
Management



FOS  
Local  
Archive

CM-10

# FOS Splinter Session

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**FOS Splinter Intro**

**FOS Architecture**

**User Interface**

**Planning & Scheduling**

**Command Management**

**Resource Management**

**Command Processing**

**Telemetry Processing**

**Analysis**

**Data Management**

**FOS Summary**

**Alan Johns**

**Andy Miller**

**Jim Creegan**

**Tony Cetuk**

**Jon Kuntz**

**Debbie Dunn**

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**Jeff Cox**

**Jon Kuntz**

**Jon Kuntz**

**Cal Moore**